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AUTHOR	Austad, Charles A.; Emmer, Edmund T.
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ABSTRACT

A study attempted to improve the results of correlating personality characteristics with teaching behavior within the setting of a microteaching laboratory. Self-theory constructs were used to predict teaching behavior. Subjects (80 education students) were administered the Self-Report Inventory (SRI) and the Adjective Rating Scale for Self Description (ASD) from which 10 personality characteristics were selected as independent variables. Criteria of four specific teaching tasks (clarifying objectives, assessing readiness, motivating interest, and evaluating outcomes) and two measures of teacher-pupil interaction (using Flander's interaction analysis) were used in analyzing audio tapes of each student's six to nine microteaching lessons in which he was instructed to attend cumulatively to the four teaching tasks. Pearson's product movement coefficients of correlation were computed as an attempt to determine what relationship existed between 1) performance in the teaching laboratory and changes in performance (from first two to last two lessons) and 2) scores obtained on the SRI and the ASD. Personality variables were not found to be significantly related to laboratory performance. Highly significant changes which occurred on all criteria from early semester to late semester were not related to SRI and ASD variables. Interrelationships of the criteria and kinds of change were also studied. Results indicated that other predictive variables of teaching performance should be sought. (JS)

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Charles A. Austad

Edmund T. Emmer

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PERSONALITY CORRELATES OF TEACHER PERFORMANCE IN A MICRO-TEACHING LABORATORY*

Charles A. Austad and Edmund T. Emmer

An extensive amount of research, as illustrated by several literature reviews, has been designed to identify relationships between personality characteristics of teachers and their teaching behaviors (Barr, 1948; Carstetter, Standlee, and Fattu, 1954; Domas and Tiedeman, 1950; Morsh and Wilder, 1954, Ryans, 1960; Tomlinson, 1955a and 1955b; Waters, 1954; Yamamoto, 1963). One outcome of all the research has been that many measures of personality traits, attitudes, and values have demonstrated relationships with a wide variety of teaching behaviors, but the correlation coefficients have been at a low level of significance (Getzels and Jackson, 1963).

An attempt was made to improve the results of correlating personality characteristics with teaching behavior within the

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setting of a microteaching laboratory designed by Emmer and Millett (1970). The laboratory setting provided a controlled opportunity to define criteria for teaching behaviors and to collect and assess the measurements taken of teacher effectiveness.

Purposes of the Study

One purpose of the study was to determine whether teacher-student interaction and the effectiveness of using certain teaching strategies were functions of selected personality characteristics of the laboratory teachers. Information was sought which might show relationships between personality traits and patterns of teacher behavior and which might identify those students who would most benefit from laboratory instruction.

A second purpose of the study was to analyze six measures used as teacher effectiveness criteria. Analyses of the criteria variables were made to determine what teaching performance changes occurred as a result of the laboratory approach to teacher education and to determine what relationships existed between the teaching strategies and teacher-student interaction.

Rationale and Procedures of the Study

An attempt was made to overcome two design criticisms of past studies. One criticism has been that predicted relationships between specific personality variables and the behaviors they produce have not been supported by sound personality theory (Barr et al., 1952). Often the constructs used have been an eclectic gathering, rather than a set of variables derived from a theoretical basis. In the present study, self theory constructs were used to predict teaching behavior. Two self description instruments were employed, The Self Report Inventory (SRI) (Bown, 1961) and the Adjective Rating Scale for Self Description (ASD) (Parker and Veldman, 1969).

The SRI has items describing the respondent's "attitudes toward various aspects of his phenomenological world" (Bown, 1961). Scales representing attitudes toward self, others, and authority, in addition to the total score, were selected as independent variables.

Scales of the ASD were empirically derived through factor analysis of self-ratings on descriptive adjectives. The factors labeled Social Warmth, Social Abrasiveness, Ego Organization, Introversion-Extraversion, Neurotic Anxiety, and Social Attractiveness were selected for study.

A second criticism of past research with personality correlates of teacher behavior has been concerned with ineffective attempts to design criteria of teacher performance that are operationally related to effective teaching (Barr, et al., 1952, 1953). Rather than treating the measurement of teacher behavior in an over-all way, Gough and Pemberton (1952) suggested differentiating the criteria and Gage (1963) encouraged the use of "micro-criteria" in defined aspects of teacher roles. Medley and Mitzel (1963, p. 249) suggested that although "...the ultimate objective of teacher education is to increase teachers' skill in helping pupils to learn...the intermediate objective of teacher education is to get teachers to behave in certain ways." Mitzel (1960) suggested "process criteria of teacher and student behavior which are believed to be worth while in their own right."

Criteria of specific teaching tasks and student-teacher interaction measuring ongoing teacher control of the class were employed in the present study. The four teaching tasks used--clarifying instructinnal objectives, assessing pupil readiness, motivating and maintaining pupil interest, and evaluating instructional outcomes--are defined in a laboratory manual (Emmer and Millett, 1970). An observational instrument based on interpersonal skills that teachers use to control and manage class activities, Flanders' Interaction Analysis (1965), was the criteria basis

for teacher-student interaction. Two ratios were used. The first was a comparison of indirect teacher influence to direct teacher influence (I/I+D), the second was a comparison of student talk to the total talk in the classroom (ST/TT).

Self theory constructs were used in the development of a set of hypotheses to predict the teaching criteria from the selected scales of the SRI and ASD. In general, it was assumed that laboratory teachers with more positive self descriptions on the personality variables would perform the teaching tasks with greater facility, be more open to constructive criticism and change through-out the semester, and be more open to interaction with the students they taught than teachers with less positive self descriptions.

A total of 80 subjects who were enrolled in four sections of the introductory teacher education course of the College of Education of The University of Texas at Austin, were administered the SRI and the ASD. During class periods in which traditional educational psychology content and teaching strategies were taught and demonstrated, an entire section would meet together. The students within each section were subdivided into small groups of six to eight individuals that met separately during class periods in which there were laboratory sessions.

During the laboratory sessions, each student would teach a 10- to 20-minute lesson based upon content from his academic major field. Six to nine lessons were taught by each student during the course of a semester. The lessons were taught to the other group members who would, at the conclusion of the lesson, join the instructor in feeding back impressions and constructive criticism to the laboratory teacher.

The first lesson was unstructured and taught before any classroom instruction had been presented. In the next four lessons, the students were instructed to attend cumulatively to the four teaching tasks used as the criteria. Audio-tapes were collected

from all subjects for all lessons taught. The effectiveness in using the strategies (six point scale) and the teacher-student interaction were coded from the tape recording by three trained raters. Estimates of individual rater reliability (agreement with other observers)were computed (Winer, 1962, pp. 124-132) from 20 lessons; these estimates ranged from .60 to .87 on the four ratings and .75 (I/I+D), .98 (ST/TT) for the interaction analysis variables.

Results

Relationships between laboratory teacher performance and personality characteristics. Pearson's product-moment coefficients of correlation were computed as an attempt to answer two general questions:

(1) What relationship exists between performance in the teaching laboratory and the scores obtained on the scales of the SRI and the ASD?

(2) What relationship exists between the scores obtained on the scales of the SRI and the ASD and changes in teaching performance based on the differences of the mean of the first two lessons taught on each criteria variable and the mean of the final two lessons taught on the same variable at the end of the semester? A teacher starting with a high performance at the beginning of the semester cannot achieve the same amount of change as a beginning low-performance teacher; therefore, the change criteria were computed as a ratio of actual change to possible change.

The results of the hypotheses testing showed that only three personality variables were significantly related to laboratory performance in the predicted direction beyond the .05 level. Six significant relationships were found to exist in the opposite direction of prediction. The number of significant results obtained from the 98 possible combinations was no greater than would have been expected by chance.

Attempts were made to determine if any factors were suppressing the relationships. Sub-samples according to major fields, instructor, semester, and sex were removed from the total sample respectively to determine if they affected the relationships. No significant changes in results were obtained. Partial correlation coefficients were computed between the personality variables and change in teaching performance and compared to the correlation coefficients obtained using the actual change to possible change ratios. No major differences were found.

Multiple regression analysis was computed using the eight personality variables to determine whether some combination of characteristics would predict performance on the six criteria. None of the multiple correlations using only personality variables as predictors was significant at the .05 level.

Analyses of the criteria. Analyses of the criteria were made to gain information about the interrelationships of the criteria and the kinds of change that occur as a result of the laboratory approach to teacher education. Correlational relationships between the criteria are presented in Table 1.

TABLE 1

CORRELATION COEFFICIENTS BETWEEN SEMESTER AVERAGES ON THE CRITERIA MEASURES (N=80)

	Clarifying Objectives	Assessing Readiness	Motivating Interest	Evaluating Outcomes	I/I+D	ST/TT
Clarifying Objectives		.298*	.209	.574**	.029	.012
Assessing Readiness			.662**	.317**	.439**	.234*
Motivating Interest				.364**	.305**	.364**
Evaluating Outcomes					.172	.131
I/I+D						.327**
ST/TT						

*p < .05
**p < .01

Motivating and maintaining pupil interest was related beyond the .01 level of significance with all other criteria measures except clarifying instructional objectives. The largest correlation, .66, was between motivating pupil interest and assessing pupil readiness. Assessing pupil readiness requires the teacher to interact with students to get them to express their knowledge and needs. Such student involvement was highly related not only to the motivation variables but to the interaction variables as well. The same two

variables, motivation and assessing readiness, were the two teaching tasks most highly related to indirect teacher influence and student talk.

Clarifying instructional objectives was the criterion variable least related to other criteria. Particularly notable was its lack of relationship with interaction ratios. Clarifying objectives can be performed at a high level through lecture and does not necessarily require interaction with class members.

Teaching tasks that require the teacher to interact with the students correlated most highly with the ability to motivate interest. Also, increased use of teacher-student interaction was observed to be related to an increase in motivation as the semester progressed. In general, student participation appeared to be the factor accounting for the high inter-correlation of the criteria.

Descriptive analyses of teacher performance were completed to determine what progress and changes occurred during laboratory teaching. Entering performance was the highest for clarifying instructional objectives. However, since the second lesson was part of the average of entering behavior and the clarifying objectives task was taught before the second laboratory lesson, the superiority of the performance cannot be interpreted as significant. Students showed the best levels of final performance and the greatest amount of changes on the motivating pupil interest and assessing pupil readiness variables.

'z' tests (Gilford,1965, pp. 177-183) were computed to determine the significance of change from the means of the first two lessons to the means of the final two lessons on each criterion variable (Table 2). Highly significant changes occurred on all criteria from early semester to late semester. However, these gains were not related to variables measured by the SRI or the ASD.

TABLE 2

z STATISTICS SHOWING LEVELS OF SIGNIFICANCE BETWEEN MEAN LABORATORY TEACHING PERFORMANCES FROM EARLY TO LATE SEMESTER (N=80)

Criteria Variables	$\tilde{z}$
Clarifying Objectives	3.65*
Assessing Readiness	11.20**
Motivating Interest	11.36**
Evaluating Outcomes	8.53**
Indirect Teacher Influence Ratio	8.07**
Student Talk Ratio	15.08**

*$p < .005$

**$p < .001$

Analyses of variance were computed to determine if significant differences occurred between changes obtained by sub-samples according to major fields and instructors. Students with different majors were apparently able to make similar significant progress through the semester. A difference in instructor treatment was observed.

The criteria analyses demonstrated that the correlations between teacher performance during the first two lessons and the final two lessons were, in general, significantly positive. This indicates a possible use of early performance in the laboratory as predictor of later success and also as a means of identifying instructional needs of individual students. The correlations of performance on the first lesson with final performance on each of the criterion variables are presented in Table 3.

TABLE 3

CORRELATION COEFFICIENTS BETWEEN ENTERING PERFORMANCE (1st LESSON) AND FINAL PERFORMANCE (AVERAGE OF LAST TWO LESSONS) ON EACH CRITERION VARIABLE (N=80)

Criterion Variables	r
Clarifying Objectives	.158
Assessing Readiness	.376**
Motivating Interests	.480**
Evaluating Outcomes	.228*
Indirect Teacher Influence Ratio	.315**
Student Talk Ratio	.260*

*p $\prec$ .05 (two tail test)
**p $<$ .01 (two tail test)

Although they are not strong enough for practical use, the correlations suggest further exploration of their value for individual diagnostic purposes.

Summary

Although micro-criteria for teacher effectiveness were used in this study, and personality variables were drawn from self theory constructs, no improvement in results over previous research were obtained. The lack of support for this area of research in the literature and in the present study would appear to indicate that other predictive variables of teaching performance should be sought. One possibility is to use assessment instruments more directly related to teaching, such as measures of anxiety about teaching or concerns of teachers.

Another recommendation is to determine entering behavior of teachers in order to study its relationship with terminal performance. Although the correlations between entering and final performances in this study were not large enough for immediate predictive purposes, further investigations of this type may be able to identify teachers who would profit from differential treatments (e.g., different amount of practice of skills related to a particular teaching task) in a teaching laboratory.

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